

Date: Wed, 13 Jul 94 04:30:52 PDT
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #185
To: Ham-Space

Ham-Space Digest Wed, 13 Jul 94 Volume 94 : Issue 185

Today's Topics:

 ARLS026 NASA operations detailed
 DOVE Telemetry Decoding Software
 GARC Shuttle Communications Retransmissions
 KLM vs. M2 antennas
 oscar rigs, etc.
 Sattelite Descriptions-Info.Misc
 STS-65 Orbital State Vector Rev #51
 STS-65 Orbital State Vector Rev #61
 STS-65 Orbital State Vector Rev #65
 Two-Line Orbital Element Set: Space Shuttle

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 11 Jul 1994 18:16:58 EDT
From: psinntp!arrrl.org!usenet@uunet.uu.net
Subject: ARLS026 NASA operations detailed
To: ham-space@ucsd.edu

SB SPACE @ ARL \$ARLS026
ARLS026 NASA operations detailed

ZCZC AS70
QST de W1AW
Space Bulletin 026 ARLS026

Date: Mon, 11 Jul 1994 14:34:23 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!nanovx!kd4dts!jcw@network.ucsd.edu
Subject: DOVE Telemetry Decoding Software
To: ham-space@ucsd.edu

I'm looking for some good software for decoding the telemetry from DOVE. I'd like something that I can both connect to a TNC, and feed it a file from a terminal program running in capture mode. I've got the one that was posted to ftp.funet.fi (DOVE3W13) but I'm not overly impressed.

If anyone has any suggestions for something better, or a program that can handle the telemetry from other satellites, I'd like to know about it, please.

- John

--

John C. Wren (kd4dts) | "The UNIX operating system has a command, NICE,
jcw@kd4dts.atl.ga.us | which allows a user to voluntarily reduce the
..!emory!wa4mei!kd4dts!jcw | priority of his process, in order to be nice to

Date: 12 Jul 1994 01:33 CDT
From: ihnp4.ucsd.edu!usc!cs.utexas.edu!convex!news.tcu.edu!news.tcu.edu!
nnntp@network.ucsd.edu
Subject: GARC Shuttle Communications Retransmissions
To: ham-space@ucsd.edu

In article <2vr9gv\$eo8@paperboy.gsfc.nasa.gov>, Erich Franz Stocker
<stocker@spsosun.gsfc.nasa.gov> writes...

>

>INTERESTED IN STS-65 SHUTTLE TRANSMISSIONS

>The Goddard Amateur Radio Club (GARC) invites interested people to tune
>in to

>STS-65 shuttle ground communications transmissions. As a public service
>to the

>Amateur radio community, the GARC retransmits space shuttle air-to-ground
>communications. During the STS-65 mission which also carries a Shuttle

[some deleted]

I felt I just had to say this. I'm listening right now to 3860 kHz and I hear more jabber from the guy at the radio club than the retransmissions from the shuttle. I've noticed this trend over past shuttle missions as well that the radio club talks an awful lot. Some of the information is quite

useful but at the expense of the primary purpose for the station.
I don't know how you could solve this problem unless you used another freq for your bulletins, maybe up 10 kHz, and announced that on the retransmission freq before you speak, or have a regular schedule for these transmission on the alternate freq. I hope you don't think I'm griping too much because I can't thank the people there enough for this service. When our link here isn't working or I go on a trip, you are always there.

Just my \$0.02.

myles KG5AI

Date: Tue, 12 Jul 1994 15:31:07 GMT
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!gatech!kd4nc!ke4zv!
gary@network.ucsd.edu
Subject: KLM vs. M2 antennas
To: ham-space@ucsd.edu

In article <9407051841.ZM29483@SALCIUS2> Wayne_Estes@csg.mot.COM (Wayne_Estes) writes:

>I am about to put up Oscar antennas on my roof. I have tentatively ruled out
>the KLM 22C antenna because the boom is so long. I would prefer to use either
>the small KLM's, or the M2 antennas which are 16 elements on VHF, 30 elements
>on UHF.

The big KLMs are so much better than anything else that I'd make every effort to fit them on the roof rather than accept a smaller compromise. They *can* be made to work on a chimney mount.

>I would appreciate anybody's comments:

- >
>1. Comparison of small KLM (14 el. on VHF) vs. M2 antennas (16 el. on VHF) ?
> (gain, mechanical construction, weather problems, polarity relays, etc.)
>2. Is a closet rod an acceptable substitute for a fiberglass crossboom ?
> If so, is polyurethane an acceptable sealant ?

Yes, you can use a wooden crossboom, and yes poly is a good sealant. However, the fiberglass crossboom will be better over the long term. Again, don't stint on your antennas for satellite.

- >3. Best weatherproof VHF preamp that can handle 50+ watts ?

SSB Electronics.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: Tue, 12 Jul 1994 15:45:46 GMT
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!gatech!kd4nc!ke4zv!
gary@network.ucsd.edu
Subject: oscar rigs, etc.
To: ham-space@ucsd.edu

In article <2vi09l\$cda@netline-fddi.jpl.nasa.gov> rspear@sookit.jpl.nasa.gov
writes:

>Content-Transfer-Encoding: 7bit
>X-Newsreader: TIN [version 1.2 PL0]
>
>

>i'm trying to put together a first sat station ... right now i just use a
>2 meter mobile rig, power supply and 3 element beam. i know about 726's
>and 736's, but i would like to enter the hobby at a less expensive level.
>seems that there are 2 meter and 430 mhz multimodes that were used for sat
>comm before the fancy newer rigs ... anyone have suggestions for entry
>level stuff?

Yes, any of the Icom Twin sets are fine. The IC211 and IC251 need the
Mutek front end board fitted for best results. Since Mutek doesn't make
those anymore, that could be a tough problem. I've got a IC211 with the
Mutek board that blew the doors off most of the more modern rigs before
lightning got it. Even without the Mutek board, a strong preamp can
bring these radios alive. If you have a HF rig, take the IF out signal
from the back and run it into the HF rig. Then you can use the narrow
filters in the HF rig. Note, that uses the 2m rig as a tunable transverter.

Another alternative is to actually *use* a transverter. The Microwave
Modules units are functional, but hard to find since they went out
of production. The SSB Electronics transverters are wonderful, but
you'll pay as much for one of those as for a modern multimode. If you
are adventuresome, you might try to find the IC202 and IC402 portable
SSB rigs. They are VXO controlled, and use a considerably older technology,
but they do work.

For the cheapest of the cheap, if you have a HF receiver, you can use
a Hamtronics converter in front of it for 2m receive, and use a surplus
commercial FM transmitter strip as a CW transmitter on 435 MHz. That's
a really cheap way to get about 100 watts of RF at 70cm.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Date: 12 Jul 1994 04:56:17 GMT
From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!charnel.ecst.csuchico.edu!olivea!
apple.com!NewsWatcher!user@network.ucsd.edu
Subject: Sattelite Descriptions-Info.Misc
To: ham-space@ucsd.edu

Since I'm kind of new to the sattelite tracking world I am trying to find out more about the sattelites which are listed in the two line Nasa data and Amsat 2L data. I can load these up and do all of the nifty things that Orbitrack does but most the time I haven't a clue as to what the sattelite does or who it belongs to. Does anyone know about any publications, listings out there that can shed some light on this subject?

Date: Tue, 12 Jul 1994 00:24:11 GMT
From: netcomsv!netcom.com!astroman@decwrl.dec.com
Subject: STS-65 Orbital State Vector Rev #51
To: ham-space@ucsd.edu

Vector format = 1017
Satellite Name: STS-65
Catalog Number: 23173 94039A
Epoch Date/Time: 94192.85132475694
07/11/1994 20:25:54.458 UTC
ECI X: -19792893.699414 ft
M50 Y: 9217659.589786 ft
Z: 1839134.071865 ft
Xdot: -10369.12109 ft/s
Ydot: -19862.16016 ft/s
Zdot: -11877.81641 ft/s
ndot/2 (drag): 0.00082398099 rev/day^2
nddt/6: 2.84871E-08 rev/day^3
Bstar: 2.54622E-04 1/Earth Radii
Elset #: 11
Rev @ Epoch: 51.47311622552

MSDOS/PC software is available for conversion of

OSV to 2 Line Keplerian Elements via ftp to:
oak.oakland.edu:/pub/msdos/hamradio/v2l9331.zip
and the SIMTEL archives.

State Vectors courtesy Ken Ernandes N2WWD

SM

Date: Tue, 12 Jul 1994 14:41:02 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!csulb.edu!csus.edu!netcom.com!
astroman@network.ucsd.edu
Subject: STS-65 Orbital State Vector Rev #61
To: ham-space@ucsd.edu

Vector format = 117
Satellite Name: STS-65
Catalog Number: 23173 94039A
Epoch Date/Time: 94193.50219915509
07/12/1994 12:03:10.007 UTC
EFG E: -20131194.22 ft
F: 1177497.36 ft
G: -8568484.44 ft
Edot: -4248.2829 ft/s
Fdot: -22539.5027 ft/s
Gdot: 6908.7131 ft/s
ndot/2 (drag): 0.00077029322 rev/day^2
nddt/6: 2.48957E-08 rev/day^3
Bstar: 2.37983E-04 1/Earth Radii
Elset #: 12
Rev @ Epoch: 61.84693482098

MSDOS/PC software is available for conversion of
OSV to 2 Line Keplerian Elements via ftp to:
oak.oakland.edu:/pub/msdos/hamradio/v2l9331.zip
and the SIMTEL archives.

State Vectors courtesy Ken Ernandes N2WWD

SM

Date: Wed, 13 Jul 1994 02:53:39 GMT
From: netcomsv!netcom.com!astroman@decwrl.dec.com
Subject: STS-65 Orbital State Vector Rev #65
To: ham-space@ucsd.edu

Vector format = 117
Satellite Name: STS-65
Catalog Number: 23173 94039A
Epoch Date/Time: 94193.75243540509
07/12/1994 18:03:30.419 UTC
EFG E: 3437684.35 ft
F: 19689416.44 ft
G: -8979370.44 ft
Edot: -22160.2418 ft/s
Fdot: 6671.3730 ft/s
Gdot: 6170.2319 ft/s
ndot/2 (drag): 0.00077342045 rev/day^2
nddt/6: 2.50970E-08 rev/day^3
Bstar: 2.37972E-04 1/Earth Radii
Elset #: 13
Rev @ Epoch: 65.83537638695

MSDOS/PC software is available for conversion of
OSV to 2 Line Keplerian Elements via ftp to:
oak.oakland.edu:/pub/msdos/hamradio/v2l9331.zip
and the SIMTEL archives.

State Vectors courtesy Ken Ernandes N2WWD

SM

Date: Mon, 11 Jul 1994 20:29:03 GMT
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!convex!news.duke.edu!zombie.ncsc.mil!
blackbird.afit.af.mil!tkelso@network.ucsd.edu
Subject: Two-Line Orbital Element Set: Space Shuttle
To: ham-space@ucsd.edu

The most current orbital elements from the NORAD two-line element sets are carried on the Celestial BBS, (513) *253-9767*, and are updated daily (when possible). Documentation and tracking software are also available on this system. As a service to the satellite user community, the most current elements for the current shuttle mission are provided below. The Celestial BBS may be accessed 24 hours/day at 300, 1200, 2400, 4800, or 9600 bps using 8 data bits, 1 stop bit, no parity.

Element sets (also updated daily), shuttle elements, and some documentation and software are also available via anonymous ftp from archive.afit.af.mil (129.92.1.66) in the directory pub/space.

STS 65

1 23173U 94039A 94192.25000000 .00002043 00000-0 47692-5 0 121
2 23173 28.4710 348.6130 0002783 331.8577 348.2890 15.90370106 409

--

Dr TS Kelso
tkelso@afit.af.mil

Assistant Professor of Space Operations
Air Force Institute of Technology

Date: (null)
From: (null)

Date: Tue, 12 Jul 1994 15:01:07 GMT
From: telesoft!garym@uunet.uu.net
To: ham-space@ucsd.edu

References <STS-65.94189.746@alsys.com>, <STS-65.94191.629@alsys.com>,
<STS-65.94192.570@alsys.com>
Reply-To : elements-request@alsys.com
Subject : STS-65 Element Set (94193.260)

STS-65

1 23173U 94039A 94193.26085228 +.00002036 00000-0 47272-5 0 146
2 23173 28.4704 341.0586 0002767 343.5572 16.4949 15.90437602 584

Satellite: STS-65

Catalog number: 23173

Epoch time: 94193.26085228 (12 JUL 94 06:15:37.64 UTC)

Element set: GSFC-014

Inclination: 28.4704 deg

RA of node: 341.0586 deg

Space Shuttle Flight STS-65

Eccentricity: 0.0002767

Keplerian Elements

Arg of perigee: 343.5572 deg

Mean anomaly: 16.4949 deg

Mean motion: 15.90437602 rev/day

Semi-major Axis: 6679.1896 Km

Decay rate: 0.20E-04 rev/day*2

Apogee Alt: 302.65 Km

Epoch rev: 58

Perigee Alt: 298.95 Km

(for Shuttle Elements subscription info, email: listserv@alsys.com)

--

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End of Ham-Space Digest V94 #185
